

Application No. 10/798,755
Supplemental Amendment

Customer No. 01933

Listing of Claims:

1. (Currently Amended) A group management apparatus comprising:

a plurality of inspection/manufacturing apparatuses arranged in a semiconductor production line;

5 sensor units for acquiring maintenance information concerning maintenance target items of the respective inspection/manufacturing apparatuses;

a plurality of inspection/manufacturing apparatus computers, each of which is connected to at least one of the inspection/
10 manufacturing apparatuses and controls operations of the at least one inspection/manufacturing apparatus connected thereto in accordance with operation conditions corresponding to said at least one inspection/manufacturing apparatus; and

a management computer which is connected with the
15 inspection/manufacturing apparatus computers through a communication line, said management computer comprising:

a transmission/reception section to transmit and receive information to and from the inspection/manufacturing apparatus computers with respect to at least one of: each
20 information item of the operation conditions corresponding to the respective inspection/manufacturing apparatuses, and the maintenance information from each said sensor unit;

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a change section to intensively manage the operation conditions set to the respective inspection/manufacturing apparatus computers as a group and to change the respective operation conditions of at least a selected plurality of the inspection/manufacturing apparatuses as a group with respect to the at least one inspection/manufacturing computer corresponding to said at least a plurality of the inspection/manufacturing apparatuses;

a notification section to intensively manage the maintenance information from each sensor unit of each inspection/manufacturing apparatus as a group, to monitor the maintenance information of the respective inspection/manufacturing apparatuses in order to predict a problem, and to issue a warning at a time of occurrence of the problem; and

a display section to display on a same display screen of a monitor device: (i) at least one of each said information item of the operation conditions of the respective inspection/manufacturing apparatuses, and each said maintenance information item, and (ii) an arrangement layout drawing of the inspection/manufacturing apparatuses;

wherein each of the inspection/manufacturing apparatuses has a plurality of types of inspection functions; and

wherein the change section of the management computer selects at least one of the inspection functions, and changes

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only the selected at least one inspection function when changing the operation conditions of said at least a plurality of the inspection/manufacturing apparatuses as a group.

Claims 2 and 3 (Canceled).

4. (Currently Amended) The A group management apparatus according to claim 1, comprising:

a plurality of inspection/manufacturing apparatuses arranged in a semiconductor production line;

5 sensor units for acquiring maintenance information concerning maintenance target items of the respective inspection/manufacturing apparatuses;

a plurality of inspection/manufacturing apparatus computers, each of which is connected to at least one of the inspection/manufacturing apparatuses and controls operations of the at least one inspection/manufacturing apparatus connected thereto in accordance with operation conditions corresponding to said at least one inspection/manufacturing apparatus; and

10 a management computer which is connected with the inspection/manufacturing apparatus computers through a communication line, said management computer comprising:

15 a transmission/reception section to transmit and receive information to and from the inspection/manufacturing

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20 apparatus computers with respect to at least one of: each
information item of the operation conditions corresponding to the
respective inspection/manufacturing apparatuses, and the
maintenance information from each said sensor unit;

25 a change section to intensively manage the operation
conditions set to the respective inspection/manufacturing
apparatus computers as a group and to change the respective
operation conditions of at least a selected plurality of the
inspection/manufacturing apparatuses as a group with respect to
the at least one inspection/manufacturing computer corresponding
to said at least a plurality of the inspection/manufacturing
30 apparatuses;

a notification section to intensively manage the
maintenance information from each sensor unit of each
inspection/manufacturing apparatus as a group, to monitor the
maintenance information of the respective inspection/
35 manufacturing apparatuses in order to predict a problem, and to
issue a warning at a time of occurrence of the problem; and

a display section to display on a same display screen
of a monitor device: (i) at least one of each said information
item of the operation conditions of the respective inspection/
40 manufacturing apparatuses, and each said maintenance information
item, and (ii) an arrangement layout drawing of the
inspection/manufacturing apparatuses;

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wherein the display section of the management computer displays the inspection/manufacturing apparatuses as management
45 targets and displays the inspection/manufacturing apparatuses and the operation conditions thereof in respective lists, and

wherein the display section does not display any apparatus which is not a management target in a list, and displays the
50 ~~inspection/management~~ inspection/manufacturing apparatuses as the management targets in a different conformation than said any apparatus that is not a management target in the arrangement layout drawing.

5. (Previously Presented) The group management apparatus according to claim 1, wherein, when at least one of the inspection/manufacturing apparatuses is specified on the arrangement layout drawing, the display section of the management
5 computer displays each said specified inspection/manufacturing apparatus in a different conformation than unspecified inspection/manufacturing apparatuses in the arrangement layout drawing.

6. (Previously Presented) The group management apparatus according to claim 1, wherein, when at least one of the inspection/manufacturing apparatuses is specified on the arrangement layout drawing, the display section of the management

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5 computer extracts and displays the maintenance information
corresponding to the at least one specified
inspection/manufacturing apparatus, and displays each said
specified inspection/manufacturing apparatus in a different
conformation than unspecified inspection/manufacturing
10 apparatuses in the arrangement layout drawing.

Claim 7 (Canceled).

8. (Currently Amended) ~~The A group management apparatus
according to claim 1, wherein the management computer further
comprises comprising:~~

5 a plurality of inspection/manufacturing apparatuses arranged
in a semiconductor production line;

sensor units for acquiring maintenance information
concerning maintenance target items of the respective
inspection/manufacturing apparatuses;

10 a plurality of inspection/manufacturing apparatus computers,
each of which is connected to at least one of the inspection/
manufacturing apparatuses and controls operations of the at least
one inspection/manufacturing apparatus connected thereto in
accordance with operation conditions corresponding to said at
least one inspection/manufacturing apparatus; and

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- 15 a management computer which is connected with the
inspection/manufacturing apparatus computers through a
communication line, said management computer comprising:
- 20 a transmission/reception section to transmit and
receive information to and from the inspection/manufacturing
apparatus computers with respect to at least one of: each
information item of the operation conditions corresponding to the
respective inspection/manufacturing apparatuses, and the
maintenance information from each said sensor unit;
- 25 a change section to intensively manage the operation
conditions set to the respective inspection/manufacturing
apparatus computers as a group and to change the respective
operation conditions of at least a selected plurality of the
inspection/manufacturing apparatuses as a group with respect to
the at least one inspection/manufacturing computer corresponding
30 to said at least a plurality of the inspection/manufacturing
apparatuses;
- 35 a notification section to intensively manage the
maintenance information from each sensor unit of each
inspection/manufacturing apparatus as a group, to monitor the
maintenance information of the respective inspection/
manufacturing apparatuses in order to predict a problem, and to
issue a warning at a time of occurrence of the problem;

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40 a display section to display on a same display screen
of a monitor device: (i) at least one of each said information
item of the operation conditions of the respective inspection/
manufacturing apparatuses, and each said maintenance information
item, and (ii) an arrangement layout drawing of the inspection/
manufacturing apparatuses; and

45 a setting section to set a timing to validate the
operation conditions changed as a group.

9. (Previously Presented) The group management apparatus
according to claim 1, wherein said plurality of inspection/
manufacturing apparatuses are classified for changing the
corresponding operation conditions one of: by apparatus, by
5 apparatus category, and by inspection/manufacturing line, and

wherein the display section displays the operation
conditions corresponding to the classified inspection/
manufacturing apparatuses in a display column, the operation
conditions are one of set and rearranged via manipulation of the
10 display column, and the change section rewrites the operation
conditions of the classified inspection/manufacturing apparatuses
as a group.

Claim 10 (Canceled).

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11. (Currently Amended) ~~The~~ A group management apparatus
~~according to claim 1,~~ comprising:

a plurality of inspection/manufacturing apparatuses arranged
in a semiconductor production line;

5 sensor units for acquiring maintenance information
concerning maintenance target items of the respective
inspection/manufacturing apparatuses;

a plurality of inspection/manufacturing apparatus computers,
each of which is connected to at least one of the inspection/
10 manufacturing apparatuses and controls operations of the at least
one inspection/manufacturing apparatus connected thereto in
accordance with operation conditions corresponding to said at
least one inspection/manufacturing apparatus; and

a management computer which is connected with the
15 inspection/manufacturing apparatus computers through a
communication line, said management computer comprising:

a transmission/reception section to transmit and
receive information to and from the inspection/manufacturing
apparatus computers with respect to at least one of: each
20 information item of the operation conditions corresponding to the
respective inspection/manufacturing apparatuses, and the
maintenance information from each said sensor unit;

a change section to intensively manage the operation
conditions set to the respective inspection/manufacturing

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25 apparatus computers as a group and to change the respective
operation conditions of at least a selected plurality of the
inspection/manufacturing apparatuses as a group with respect to
the at least one inspection/manufacturing computer corresponding
to said at least a plurality of the inspection/manufacturing
30 apparatuses;

a notification section to intensively manage the
maintenance information from each sensor unit of each
inspection/manufacturing apparatus as a group, to monitor the
maintenance information of the respective inspection/
35 manufacturing apparatuses in order to predict a problem, and to
issue a warning at a time of occurrence of the problem; and

a display section to display on a same display screen
of a monitor device: (i) at least one of each said information
item of the operation conditions of the respective inspection/
40 manufacturing apparatuses, and each said maintenance information
item, and (ii) an arrangement layout drawing of the
inspection/manufacturing apparatuses;

wherein the maintenance target items of the respective
inspection/manufacturing apparatuses comprise a light source used
45 in inspection or manufacture in each of the inspection/
manufacturing apparatuses; and

wherein the notification section: (i) integrates lighting
times of the respective light sources of the respective

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50 inspection/manufacturing apparatuses and compares an integration
result with an average life time, (ii) generates a notification
when the light source is close to a life end point, (iii)
generates a warning sound until replacement of the light source
when the average life time is reached and when the light source
cannot be used, and (iv) notifies a portable terminal of an
55 operator of a warning.

12. (Currently Amended) ~~The A~~ group management apparatus
according to ~~claim 1~~, comprising:

a plurality of inspection/manufacturing apparatuses arranged
in a semiconductor production line;

5 sensor units for acquiring maintenance information
concerning maintenance target items of the respective
inspection/manufacturing apparatuses;

10 a plurality of inspection/manufacturing apparatus computers,
each of which is connected to at least one of the inspection/
manufacturing apparatuses and controls operations of the at least
one inspection/manufacturing apparatus connected thereto in
accordance with operation conditions corresponding to said at
least one inspection/manufacturing apparatus; and

15 a management computer which is connected with the
inspection/manufacturing apparatus computers through a
communication line, said management computer comprising:

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20 a transmission/reception section to transmit and receive information to and from the inspection/manufacturing apparatus computers with respect to at least one of: each information item of the operation conditions corresponding to the respective inspection/manufacturing apparatuses, and the maintenance information from each said sensor unit;

25 a change section to intensively manage the operation conditions set to the respective inspection/manufacturing apparatus computers as a group and to change the respective operation conditions of at least a selected plurality of the inspection/manufacturing apparatuses as a group with respect to the at least one inspection/manufacturing computer corresponding to said at least a plurality of the inspection/manufacturing apparatuses;

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a notification section to intensively manage the maintenance information from each sensor unit of each inspection/manufacturing apparatus as a group, to monitor the maintenance information of the respective inspection/

35 manufacturing apparatuses in order to predict a problem, and to issue a warning at a time of occurrence of the problem; and

a display section to display on a same display screen of a monitor device: (i) at least one of each said information item of the operation conditions of the respective inspection/

40 manufacturing apparatuses, and each said maintenance information

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item, and (ii) an arrangement layout drawing of the
inspection/manufacturing apparatuses;

wherein the maintenance target items of the respective
inspection/manufacturing apparatuses comprise a light source used
45 in inspection or manufacture in each of the inspection/
manufacturing apparatuses; and

wherein the management computer further comprises a light
control section which: (i) illuminates a reference inspection/
manufacturing object with each said light source while changing a
50 voltage of the light source, (ii) creates an ideal lamp
characteristic curve based on brightness data and a voltage
obtained by measuring with a corresponding said sensor unit a
brightness of light beams reflected from the reference
inspection/manufacturing object during the illumination, and
55 (iii) during inspection/manufacturing of an object to be
inspected/manufactured, adjusts a voltage of the light source
such that a brightness of the object to be inspected/manufactured
is equal to a brightness corresponding to a set voltage of the
ideal lamp characteristic curve.